

REMARKS

Claim 7 is canceled. Claims 1, 3-6, 14-18, 30, and 32-37 are pending in the application.

Claim 7 stands objected to for failing to further limit the subject matter of a previous claim. Claim 7 is hereby canceled.

Claims 1, 3-7, 14-18 and 32-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mankell (U.S. Patent Publication No. 2002/0127399); in combination with Combes (U.S. Patent No. 5725987); and either Tutin (U.S. Patent Publication No. 2004/0034154); or Buck (U.S. Patent No. 6039821). A proper obviousness rejection requires, *inter alia*, that the references teach or suggest all the claim limitations. Claims 1, 3-6, 14-18 and 32-37 are allowable over the combination of Mankell and Combes in further view of Tutin or Buck for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims.

Each of independent claims 1 and 30 recite forming a monolayer on a substrate surface where the substrate comprises a glass fiber and subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material. Mankell is relied upon as disclosing coating a glass fiber with a compound containing functionalized silicon including an organic group. Mankell is further relied upon as teaching that the coating may be applied prior to or during the addition of binder to fiberglass during the formation of fiberglass batts (present Action at page 5). Mankell discloses forming a coating on a fiberglass. However, Mankell does not disclose or suggest the recited monolayer formation or the recited subsequent incorporation into a fiberglass matrix by

bonding the organic group (of the monolayer) within a polymeric layer. The Examiner asserts that combining the teachings of Tutin or Buck, which teach use of epoxy resins as binders, would render obvious the recited bonding of the organic group with a polymeric material. Applicant disagrees.

It is noted that Mankell distinctly indicates that the purpose of the applied coating is to have a coating that is hydrophobic and antimicrobial. Nowhere does Mankell teach or suggest cross-linking this coating to polymeric materials. Additionally, cross-linking of such coating material is likely to destroy the intended properties of the coating material making it unsuitable for its intended purpose. Additionally, Each of Tutin and Buck specify utilization of the disclosed epoxies in conjunction with uncoated fiber materials. The combination of Mankell with Tutin or buck therefore does not teach or suggest the claims 1 and 30 recited forming a monolayer on a substrate surface where the substrate comprises a glass fiber and subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material.

Combes is relied upon as disclosing methods of forming a monolayer of functionalized silicon including an organic group on a substrate surface. However, Combes fails to disclose or suggest the recited fiberglass substrate or the recited subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material. Accordingly, as combined with the additionally cited references, Combes does not overcome the deficiencies of Mankell, Tutin and/or Buck. Further the method of fiberglass formation of the invention is distinctly advantageous. As indicated in the specification at paragraph 57, the glass fibers can be covalently bonded

relative to prior art fiberglass materials which have a mechanical interaction as the primary interaction retaining the fiber within the polymeric matrix. Accordingly the combination of Mankell, Combes and Tutin or Buck does not disclose or suggest the claims 1 and 30 recited forming a monolayer on a substrate surface where the substrate comprises a glass fiber and subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material. Claims 1 and 30 are therefore not rendered obvious by the cited combinations of Mankell, Combes and Tutin or Buck.

Dependent claim 7 is canceled. Dependent claims 3-6, 14-18 and 32-37 are allowable over Mankell and Combes in further view of Tutin or Buck for at least the reason that they depend from corresponding allowable base claims 1 and 30.

Claims 3-7, 16-18 and 34-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mankell as combined with Fukushima (U.S. Patent Publication No. 2002/0197879); in further view of Tutin or Buck. As indicated above, Independent claims 1 and 30 are not rendered obvious by the combination of Mankell and Tutin or Buck. Fukushima is relied upon as disclosing methods of forming a monolayer of functionalized silicon including an organic group utilizing supercritical carbon dioxide as a solvent (present Action at page 9). However, Fukushima fails to disclose or suggest the recited fiberglass substrate or the recited subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material. Accordingly, as combined with the additionally cited references, Combes does not overcome the deficiencies of Mankell, Tutin and/or Buck. Again, the method of fiberglass formation of the invention is distinctly advantageous as indicated in the specification at paragraph 57 and as discussed above

Accordingly the combination of Mankell, Fukushima and Tutin or Buck does not disclose or suggest the claims 1 and 30 recited forming a monolayer on a substrate surface where the substrate comprises a glass fiber and subsequently incorporating the glass fiber into a fiberglass matrix by bonding the organic group within a polymeric material. Claims 1 and 30 are therefore not rendered obvious by the cited combinations of Mankell, Fukushima and Tutin or Buck.

Pending dependent claims 3-6, 16-18 and 34-37 are allowable over Mankell, Fukushima and Tutin or Buck for at least the reason that they depend from corresponding allowable base claims 1 and 30.

For the reasons discussed above, pending claims 1, 3-6, 14-18, 30, and 32-37 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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